



# Sequence Listing

<110> APROGEN INC.  
 <120> HUMANIZED ANTIBODY AND PROCESS FOR PREPARING SAME  
 <130> PCA30215/APG  
 <140> US/10/508,759  
 <141> 2004-09-22  
 <150> KR10-2002-0015708  
 <151> 2002-03-22  
 <160> 38  
 <170> KopatentIn 1.71  
 <210> 1  
 <211> 345  
 <212> DNA  
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<220>  
 <223> Variable region of humanized light chain HZVII

<400> 1	
caggtccagc tgggtgcagtc tggagctgaa gtgaagaagc ctggggcctc agtgaaggtt	60
tcctgcaaag cttctggcta caccttcacc agtgcttgga tgaactgggt gcgacaggcc	120
cctggacagg gtcttgagt gatgggacgg atttacccta gtggtggaag cactagctac	180
gcacagaagt tccagggcag agtcacaatg actgcagaca aatccacgag cacagtctac	240
atggagctca gcagcctgag atctgaggac acggcgggtgt attactgtgc aagagagtac	300
cgggttgccc gttggggcca aggaactctg gtcactgtct cttca	345

<210> 2  
 <211> 115  
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 <223> Variable region of humanized light chain HZVII

<400> 2	
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Ala Pro Gly Ala	
1 5 10 15	
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Ala	
20 25 30	
Trp Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	
35 40 45	
Gly Arg Ile Tyr Pro Ser Gly Gly Ser Thr Ser Tyr Ala Gln Lys Phe	
50 55 60	
Gln Gly Arg Val Thr Met Thr Ala Asp Lys Ser Thr Ser Thr Val Tyr	
65 70 75 80	

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95  
Ala Arg Glu Tyr Arg Val Ala Arg Trp Gly Gln Gly Thr Leu Val Thr  
100 105 110  
Val Ser Ala  
115

<210> 3  
<211> 336  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain HZIV

<400> 3  
gatatcgtga tgacccaaac tccactttct ttgtcgggta cccttgga accagcctct 60  
atctcttgca agtcaagtca gagcctctta tatagtaatg gaaaaaccta tttgaattgg 120  
ttattacaga agccaggcca gcctccacag cgcctaattct atctggtgtc taatcgggac 180  
tctggagtcc ctgacagggtt cagtggcagt ggatcaggaa cagattttac actgaaaatc 240  
agcagagtgg aggctgagga tgttggagtt tattactgcg tgcaagggtac acattttcct 300  
cagacgttcg gtggaggcac caaggtggaa atcaaa 336

<210> 4  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain HZIV

<400> 4  
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly  
1 5 10 15  
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30  
Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Lys Pro Gly Gln Pro  
35 40 45  
Pro Gln Arg Leu Ile Tyr Leu Val Ser Asn Arg Asp Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80  
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly  
85 90 95  
Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys  
100 105 110

<210> 5  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligomer Ryu94

<400> 5  
gagaattcac attcacgatg tacttg

26

<210> 6  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligomer HUR43-1

<400> 6  
ctgctgcagc tggacctgac tctggacacc att

33

<210> 7  
<211> 33  
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<220>  
<223> oligomer HUR44-1

<400> 7  
caggtccagc tgcagcagtc tggacctgaa ctg

33

<210> 8  
<211> 33  
<212> DNA  
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<223> oligomer HUR45-1

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tgggcccttg gtggaggctg cagagacagt gac

33

<210> 9  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligomer HUR46-1

<400> 9  
gcctccacca agggcccatc ggtcttcccc ctg

33

<210> 10  
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<223> oligomer HUR31

<400> 10  
cagcggccgc tcatttaccg ggggacag

28

<210> 11  
<211> 26  
<212> DNA  
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<220>  
<223> oligomer Ryu86

<400> 11  
caaagcttgg aagcaagatg gattca

26

<210> 12  
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<220>  
<223> oligomer HUR48

<400> 12  
caagatatcc ccacaggtac cagatac

27

<210> 13  
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<212> DNA  
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<223> oligomer HUR49

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tgtggggata tcttgatgac ccaaact

27

<210> 14  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligomer HUR50

<400> 14  
cacagatctt ttgatttcca gcttggt

27

<210>	15	
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<213>	Artificial Sequence	
<220>		
<223>	oligomer CK1D	
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<210>	17	
<211>	27	
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<400>	17	
	ccggaattca cattcacgat gtacttg	27
<210>	18	
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<212>	DNA	
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<220>		
<223>	oligomer YM003	
<400>	18	
	tgccccaga ggtgct	16
<210>	19	
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<220>		
<223>	oligomer ym257	
<400>	19	
	acgcattcag tgcttcttg atgaactggg tga	33

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<212>	DNA	
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<220>		
<223>	oligomer YM258	
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atccaagaag cactgaatgc gtagccagaa g		31
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<211>	38	
<212>	DNA	
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<220>		
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<400>	21	
ccaattcaaa gcggtttttc cattactata taagaggc		38
<210>	22	
<211>	32	
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<213>	Artificial Sequence	
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<223>	oligomer YM009	
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gcagccaccg tacgtttgat ttccaccttg gt		32
<210>	23	
<211>	39	
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<223>	oligomer Ryu 166	
<400>	23	
ggatttgtct gcagtcattg tggctctgcc ctggaactt		39
<210>	24	
<211>	27	
<212>	DNA	
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<400>	24	
gacaaatcca cgagcacagt ctacatg		27

<210> 25  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligomer Ryu 118

<400> 25  
 ctgtggaggc tggcctggct tctgtaataa cca

33

<210> 26  
 <211> 30  
 <212> DNA  
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<220>  
 <223> oligomer Ryu 119

<400> 26  
 ggccagcctc cacagctcct aatctatctg

30

<210> 27  
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<220>  
 <223> Variable region of humanized heavy chain KR127VH

<400> 27  
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 tcctgcaaag cttctggcta cgcattcagt agttcttggga tgaactgggt gaagcagagg  
 cctggacagg gtcttgagtg gattggacgg atttatcctg gagatggaga tactaactac  
 aatgggaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcctac  
 atgcagctca gcagcctgac ctctgtggac tctgcggtct atttctgtgc aagagagtac  
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60

120

180

240

300

345

<210> 28  
 <211> 115  
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<220>  
 <223> Variable region of humanized heavy chain KR127VH

<400> 28  
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 1 5 10 15  
 Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser  
 20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
           35                          40                          45  
 Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe  
           50                          55                          60  
 Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
           65                          70                          75                          80  
 Met Gln Leu Ser Ser Leu Thr Ser Val Asp Ser Ala Val Tyr Phe Cys  
                           85                          90                          95  
 Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr  
                   100                          105                          110  
 Val Ser Ala  
           115

<210> 29  
 <211> 336  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> variable region of humanized light chain KR127VK

<400> 29	
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atctcttga agtcaagtca gagcctctta tatagtaatg gaaaaaccta tttgaattgg	120
ttattacaga ggccaggcca gtctccaaag cgcctaattct atctggtgtc taaactggac	180
tctggagtcc ctgacagggt cactggcagt ggatcaggaa cagattttac actgaaaatc	240
atcagagtgg aggctgagga tttgggagtt tattactgcg tgcaaggtac acattttcct	300
cagacgttcg gtggaggcac caagctggaa atcaaa	336

<210> 30  
 <211> 112  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> variable region of humanized light chain KR127VK

<400> 30  
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   1                  5                  10                  15  
 Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
           20                  25                  30  
 Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser  
           35                  40                  45  
 Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro  
           50                  55                  60  
 Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile



65		70		75		80									
Ile	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Tyr	Cys	Val	Gln	Gly
				85					90					95	
Thr	His	Phe	Pro	Gln	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 31  
 <211> 294  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Variable region of humanized heavy chain DP7

<400>	31	
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gtgaagaagc	ctggggcctc	agtgaaggtt
		60
tcctgcaagg	catctggata	caccttcacc
agctactata	tgactgggt	gcgacaggcc
		120
cctggacaag	ggcttgagt	gatgggaata
atcaacccta	gtggtggtag	cacaagctac
		180
gcacagaagt	tccagggcag	agtcaccatg
accagggaca	cgtccacgag	cacagtctac
		240
atggagctga	gcagcctgag	atctgaggac
acggccgtgt	attactgtgc	gaga
		294

<210> 32  
 <211> 98  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Variable region of humanized heavy chain DP7

<400>	32														
Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala
1			5						10					15	
ser	val	lys	val	ser	cys	lys	ala	ser	gly	tyr	thr	phe	thr	ser	tyr
		20						25					30		
tyr	met	his	trp	val	arg	gln	ala	pro	gly	gln	gly	leu	glu	trp	met
		35				40						45			
gly	ile	ile	asn	pro	ser	gly	gly	ser	thr	ser	tyr	ala	gln	lys	phe
	50					55					60				
gln	gly	arg	val	thr	met	thr	arg	asp	thr	ser	thr	ser	thr	val	tyr
	65				70					75					80
met	glu	leu	ser	ser	leu	arg	ser	glu	asp	thr	ala	val	tyr	tyr	cys
			85						90					95	
ala	arg														

<210> 33

<211> 302  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain DPK12

<400> 33  
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atctcctgca agtctagtca gagcctcctg catagtgatg gaaagaccta tttgtattgg 120  
tacctgcaga agccaggcca gcctccacag ctcttgatct atgaagtttc caaccggttc 180  
tctggagtgc cagatagggt cagtggcagc gggtcaggga cagatttcac actgaaaatc 240  
agccgggtgg aggctgagga tgttgggggt tattactgca tgcaaagtat acagcttcct 300  
cc 302

<210> 34  
<211> 100  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized light chain DPK12

<400> 34  
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly  
1 5 10 15  
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser  
20 25 30  
Asp Gly Lys Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro  
35 40 45  
Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80  
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ser  
85 90 95  
Ile Gln Leu Pro  
100

<210> 35  
<211> 345  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Variable region of humanized heavy chain HZI

<400> 35  
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tcctgcaaag cttctggcta cgcattcagt agttcttgga tgaactgggt gcgacaggcc	120
cctggacagg gtcttgagtg gattggacgg atttatcctg gagatggaga tactaactac	180
gcacagaagt tccagggcaa ggccacactg actgcagaca aatccacgag cacagcctac	240
atggagctca gcagcctgag atctgaggac acggcgggtct atttctgtgc aagagagtac	300
gacgaggctt actggggcca aggaactctg gtcactgtct cttca	345

<210> 36  
 <211> 115  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Variable region of humanized heavy chain HZI

<400> 36  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Val Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser  
 20 25 30  
 Trp Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45  
 Gly Arg Ile Tyr Pro Gly Asp Gly Ser Thr Ser Tyr Ala Gln Lys Phe  
 50 55 60  
 Gln Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys  
 85 90 95  
 Ala Arg Glu Tyr Asp Glu Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr  
 100 105 110  
 Val Ser Ser  
 115

<210> 37  
 <211> 336  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Variable region of humanized light chain HZI

<400> 37	
gatatcttga tgacccaaac tccactttct ttgtcggtta cccctggaca accagcctct	60
atctcttgca agtcaagtca gaggccttta tatagtaatg gaaaaaccta tttgaattgg	120
ttattacaga agccaggcca gtctccaaag cgcctaattct atctgggtgtc taaactggac	180
tctggagtcc ctgacagggt cagtggcagt ggatcaggaa cagattttac actgaaaatc	240
agcagagtgg aggctgagga tgttggagtt tattactgcg tgcaagggtac acattttcct	300

cagacgttcg gtggaggcac caaggtggaa atcaaa

336

<210> 38  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> variable region of humanized light chain HZI

<400> 38  
Asp Ile Leu Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly  
1 5 10 15  
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30  
Asn Gly Lys Thr Tyr Leu Tyr Trp Leu Leu Gln Lys Pro Gly Gln Ser  
35 40 45  
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro  
50 55 60  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80  
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Val Gln Gly  
85 90 95  
Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys  
100 105 110